

Application No.: 09/809,524

Docket No.: 28341/6114.N

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the applications:

Listing of Claims:

Claims 1-5 (canceled)

1 ~~6~~ (currently amended) A vaccine composition comprising an immunologically protective amount of a first attenuated, non-reverting mutant *Salmonella* bacterium in which the *ssaT* and *ssaC* genes have been inactivated,

wherein said *ssaT* gene consists of SEQ ID NO: 1 or 2, and wherein said *ssaC* gene consists of SEQ ID NO: 5 or 6.

2 ~~7~~ (currently amended) A vaccine composition comprising an immunologically protective amount of a first attenuated, non-reverting mutant *Salmonella* bacterium in which the *ssaT* and *ssaJ* genes have been inactivated by deletion of a portion of the coding region of the gene;

wherein said *ssaT* gene consists of SEQ ID NO: 1 or 2, and where said *ssaJ* gene consists of SEQ ID NO: 3 or 4.

Claim 8 (canceled)

3 ~~9~~ (currently amended) A vaccine composition of claim ~~6~~ ^{1 2} or ~~7~~ further comprising a second attenuated *Salmonella* bacterium in which one or more genes within the SPI2 region have been inactivated wherein said genes are selected from the group consisting of *ssaT*, *ssaJ*, *ssaC*, and *ssaM* and wherein,

said *ssaT* gene consists of SEQ ID NO: 1 or 2, said *ssaJ* gene consists of SEQ ID NO: 3 or 4, said *ssaC* gene consists of SEQ ID NO: 5 or 6, and said *ssaM* gene consists of SEQ ID NO: 7 or 30.

Claims 10-14 (canceled)

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15. (withdrawn) A method of conferring protective immunity on a non-rodent animal comprising the step of administering to said animal a vaccine composition comprising an immunologically protective amount of an attenuated, non-reverting mutant *Salmonella* bacterium in which one or more genes within the SPI2 region have been inactivated.

16. (withdrawn) The method of claim 15 wherein said immunologically protective amount of said attenuated bacterium provides an improvement in mortality, symptomatic diarrhea, physical condition, or milk production.

17. (withdrawn) The method of claim 15 wherein said gene is inactivated by deletion of a portion of the coding region of the gene.

18. (withdrawn) The method of claim 15 wherein said gene is a secretion system apparatus (*ssa*) gene.

19. (withdrawn) The method of claim 15 wherein said genes are selected from the group consisting of *ssaT*, *ssaJ*, *ssaC* and *ssaM*.

20. (withdrawn) A method of reducing the amount or duration of bacterial shedding during infection comprising the step of administering to a non-rodent animal a vaccine composition comprising an attenuated, non-reverting mutant *Salmonella* bacterium in which one or more genes within the SPI2 region have been inactivated, in an amount effective to reduce bacterial shedding by said animal.

21. (withdrawn) The method of claim 20 wherein the amount of bacterial shedding is reduced by about 10% or more.

22. (withdrawn) The method of claim 20 wherein the duration of bacterial shedding is reduced by about 10% or more.

23. (withdrawn) The method of claim 20 wherein said gene is a secretion system apparatus (*ssa*) gene.

24. (withdrawn) The methods of claim 20 wherein said gene is selected from the group consisting of *ssaT*, *ssaJ*, *ssaC*, and *ssaM*.

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25. (withdrawn) The method of claim 15 or 20 wherein said animal is selected from the group consisting of cattle, sheep, goats, horses, pigs, poultry and other birds, cats, dogs, and humans.

26. (withdrawn) The method of claim 15 or 20 wherein said animal is a pig.

27. (withdrawn) The method of claim 15 or 20 wherein said animal is cattle.

28. (withdrawn) A method of delivering a polypeptide antigen to an animal comprising the step of administering the vaccine composition of claim 13 to said animal.